

Physician's Workstation as an Aid to Medical Data Capture and Display

Ruth Dayhoff MD, Garrett Kirin, Susan Richie, William Majurski, Daniel Maloney
Washington Information Systems Center
Dept. of Veterans Affairs
8403 Colesville Rd, Suite 200
Silver Spring MD 20910
(301) 427-3700

Abstract

The Department of Veterans Affairs is developing, testing and evaluating the benefits of physicians' workstations as an aid to medical data capture in an outpatient clinic. Physicians workstations allowing a variety of data capture methods will be demonstrated.

Introduction

This automated data capture project builds on the existing imaging workstations in use at the Washington DC and Baltimore MD VA Medical Centers. These networked workstations run the VA's hospital information system and provide medical images as an integral part of patients' online medical records. Physicians are willing and even eager to perform data capture in order to include images in the patient record. The images included in the integrated online record provide valuable information not adequately recorded in the traditional patient chart.

The entering of verbal descriptions is still a time consuming process, so more efficient methods of data capture are being examined. The following devices are being incorporated as a part of the physicians workstation for evaluation: keyboard, mouse, pen, digitizing tablet, recorded voice, scanned forms automatically converted to ASCII data and imported into database, scanned documents, and captured images. It is felt that physician capture of data can also be encouraged through the benefits obtained due to greater availability of data, various patient data views, the variety of data available (structured and free text, images, electrocardiograms, scanned documents, anatomical drawings), and access to reference databases. Additional benefits are obtained by the institution due to availability of more accurate data for cost recovery.

Requirements of the Data Capture Process

The automated data capture process must meet a number of requirements in order for physicians to willingly participate. These include:

- o Data capture must be rapid. A typical outpatient visit may last only seven minutes. Data capture time must be measured in seconds to not slow physicians' work.
- o Workstations must be simple to operate. Physicians cannot spend time figuring out how to do what they need to do. In many institutions, physicians rotate periodically, so training must be quick and easy.
- o Input methods must be customized to the user. Different users prefer different input devices. Some people type well and prefer keyboards, while others prefer a mouse with a point and click user interface. Still others may prefer pen and paper, or encounter forms that can be scanned automatically.
- o It must be possible to record various types of data. For example, some data is best recorded as structured text, others as captured images or annotated anatomical drawings.
- o Finally, the record must be useful to physicians. Valuable data must be collected; the data must be presented in a functional format; and data retrieval must be rapid.

Demonstration

The demonstration will include an examination of the data being recorded, the windowing environment in which recording is performed, the devices available with discussion of physicians' preferences, and a look at the variety of forms in which data is stored including captured images, electrocardiograms, scanned documents, and structured or linked text.